

CASE REPORT

# Case report: Schizophrenia and hypertrophic osteoarthropathy, a rare syndrome hiding a life-threatening condition

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## Abstract

Schizophrenia is associated to somatic disorders especially cardio-vascular and auto-immune. Through this case report, we describe an association with hypertrophic osteoarthropathy (HPO). For this patient, it was a paraneoplastic syndrome secondary to lung cancer. This syndrome is rare but important to recognize since it could hide a life-threatening condition.

## KEY WORDS

hypertrophic osteoarthropathy, oncology, paraneoplastic syndrome, schizophrenia, somatic comorbidity to schizophrenia

## 1 | INTRODUCTION

Hypertrophic osteoarthropathy (HPO) is a rare syndrome that can be idiopathic or secondary to an infection, an inflammation or a malignant cause mainly affecting intra-thoracic organs.

The most common symptom is finger clubbing. Tenderness in the palpation of tubular bones or periosteal proliferation can be observed.<sup>1</sup>

Psychiatrists should recognize this clinical entity, because patients with schizophrenia can have difficulties expressing their physical grievances<sup>2</sup> and it can hide a serious underlying disease. This would be illustrated in this case report.

## 2 | CASE REPORT

HB is a 46-year-old man, married, father of three, and an electrician. He was diagnosed with schizophrenia at the age 26. The patient was not compliant to his treatment

so he was put on monthly injection of fluphenazine decanoate.

He smoked 52 packs-year, did not drink alcohol or use other psycho-active substances.

The patient reported pain in the hands and knees initially, then a swelling. This was his first complaint.

The main functional signs consisted of weight loss, anorexia, asthenia, and myalgia. Clinically, we objectified, tenderness in the palpation of both hands, the right knee, and the 2 legs.

The diagnosis of HPO was made based on the presence of polyarthritis and finger clubbing.

Further examinations were performed to identify the underlying cause of HPO. Routine blood tests were performed objectifying hypocholesterolemia, hypertriglyceridemia, anemia, and hypoalbuminemia.

Radiographs of the hands, knees, legs, and pelvis showed no anomalies, but radiographs of arms objectified osteolytic images in both humeri.

A fiberoptic endoscopy was performed with no abnormalities.

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A thoracic scan objectified a mediastinal tumor of 8 cm.

A biopsy of the tumor objectified a lung squamous cell carcinoma staged T4N3M1c.

The patient is going to start chemotherapy, but his prognosis is bad given that the cancer is at an advanced stage.

### 3 | DISCUSSION

HPO is an orphan syndrome.<sup>1</sup> It can be divided into primary HPO called pachydermoperiostosis mainly seen in children or young adults with a genetic predisposition<sup>3</sup> and secondary HPO that is seen in 97% of the cases. Secondary HPO is mainly due to a pulmonary affection, in that case we call it “hypertrophic pulmonary osteoarthropathy” (HPOA),<sup>3</sup> but it could be secondary to a cardiac, gastric, hepatobiliary, or miscellaneous cause.

The main clinical feature of the syndrome is finger and toe clubbing. Other symptoms include skin hypertrophy that may give coarse facial features or swelling at the ankles, a thickening of tubular bones that might be more noticeable in the extremities such as ankles and wrists. Periosteal effusion may also happen causing tenderness in those joints. In the particular case of lung cancer, patients may experience a burning sensation of the fingertips and bone pain<sup>1</sup>

A case of HPO was described in a homeless patient with schizophrenia; it was secondary to an infectious endocarditis.<sup>4</sup> In the case of our patient, HPOA was a paraneoplastic syndrome secondary to lung cancer.

Several studies have looked into the incidence of lung cancer in schizophrenic patients. A study compared patients with schizophrenia to their relatives and found higher incidences of cancer in the patients.<sup>5</sup> The most frequent cancer in schizophrenia was lung cancer for men and breast cancer for women.<sup>5</sup> But studies had controversial results when comparing the incidence of lung cancer in schizophrenic patients to the general population. A review of literature explained that with a resistance toward cancer in patients with schizophrenia.<sup>6</sup>

Once the diagnosis is made, patients with schizophrenia have poorer survival rates<sup>7</sup> and more than twice the risk of mortality.<sup>8</sup> So much like the patient we described, the prognosis is bad.

This emphasizes the importance of screening schizophrenic patients for lung cancer<sup>8</sup> especially that it is the most frequent cancer in this population,<sup>5</sup> and that the major risk factor of lung cancer is smoking.<sup>9</sup> Tobacco consumption is well documented in schizophrenia, patients smoke both more frequently and bigger quantities of cigarettes.<sup>10</sup> The same pattern of consumption is described

through all the stages starting from first-episode psychosis (FEP) to chronic patients.<sup>10</sup> Many hypotheses tried to explain this phenomenon; smoking is thought to have a good impact on negative symptoms or to have a sedative effect or to diminish extrapyramidal symptoms.<sup>10</sup> A genetic study even identified shared loci between lung cancer and smoking.<sup>11</sup> This should encourage clinicians to use different available methods to reduce or stop smoking.<sup>12,13</sup>

### 4 | CONCLUSION

HPO is a rare syndrome that could be idiopathic or secondary to inflammatory, infectious or neoplastic cause. In this case, HPO was a paraneoplastic syndrome that revealed lung cancer. Clinicians should pay close attention to physical complaints in schizophrenia because this population is vulnerable to some somatic affections. Patients with schizophrenia should be screened for lung cancer as soon as risk factors are identified.

The major risk factor for lung cancer is tobacco consumption. In this population, the consumption is more important and more frequent. So, they should imperatively be addressed to programs to quit smoking. For now, we have anti-tobacco strategies that are addressed to the general population. It would be more interesting and perhaps more effective to elaborate strategies adapted to patients with schizophrenia.

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### CONFLICT OF INTEREST

No conflict of interest is declared by the author and the co-authors. This is an original work and it is not currently under review in any other publication.

### AUTHOR CONTRIBUTIONS

Baklouti Emna, had a role in the conception of the idea, the collection of the data, in writing and editing the manuscript. Karoui Mehdi, had a role in the conception of the idea for the manuscript, in editing and revising of the manuscript. Kammoun Rania, had a role in the revising of the manuscript. Ellouze Faten, gave final approval for the final version of the manuscript.

## ETHICS APPROVAL

The collection of the data, its analysis, and the presentation of the results was performed according to the declaration of Helsinki-ethical principles for medical research involving Human subjects. This paper is an original work. All the references that have been used are cited in the reference section. Finally, this manuscript has been presented for this journal, and it's not currently considered for publication elsewhere.

## CONSENT

The patient consented to the use of his data, and he was informed that his identity will be kept anonymous. The consent form was in Arabic since that is the only language spoken by the patient.

## DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article since no datasets were generated or analyzed during this study.

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